OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **GREAT POND** the program coordinators recommend the following actions.

FIGURE INTERPRETATION

North Station

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *stable* in-lake chlorophyll-a trend. The chlorophyll-a concentration increased slightly throughout the summer, but was consistently below the state mean. Algal abundance has remained relatively the same for three years, with diatoms and golden-brown algae being the most abundant. There was a slight increase in chlorophyll-a concentrations in September, which could have been caused by the increase in phosphorus concentration in the hypolimnion (lower water layer). While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.

- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *stable* trend in lake transparency. Transparency decreased from last season possibly due to the increase in rain we experienced this summer. The increased algal abundance in September did not seem to affect the water clarity, as it was the highest reading for the season. Mean clarity values in the North Station remain below the state mean. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *worsening* trend in the upper layer and a *slightly improving* trend for the lower layer, which means phosphorus concentrations are increasing in the upper layer and decreasing in the lower layer. Epilimnetic phosphorus concentration decreased as the summer progressed, possibly as a response to a decrease in rain. Excess nutrients can be washed into the lake through watershed runoff when it rains and can raise phosphorus concentrations in the epilimnion. On the other hand, hypolimnetic phosphorus concentration increased as the summer progressed. This is most likely caused by the depletion of oxygen in the lower water layer. See the Other Comments section below for more on this matter. Hypolimnetic phosphorus concentration continues to be above the NH median. However, the concentration is beginning to decline, which is a positive sign for the lake. The mean epilimnetic concentration was again below the state median. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- In-lake conductivity appears to be increasing over the years (Table 6). We stated in last year's report that we expected the conductivity to decrease to normal levels with more rains this year. While the increase was not severe, it is apparent that this trend might continue. Conductivity increases often indicate the influence of human activities on surface waters. Septic system leachate, agricultural runoff, iron deposits, and road runoff can all influence conductivity. It would be useful to uncover the reasons for increased conductivity as we continue to monitor the lake.

- Dissolved oxygen concentration was low from 9 meters to the bottom of the pond in July (Table 9). The process of decomposition in the sediments depletes dissolved oxygen on the bottom of thermally stratified lakes. As bacteria break down organic matter, they use up oxygen in the water. When oxygen gets below 1 mg/L, phosphorus normally bound up in the sediments may be released into the water column, a process that is referred to as *internal loading*. Depleted oxygen in the hypolimnion usually occurs as the summer progresses. This explains the higher phosphorus in the hypolimnion (lower water layer) versus the epilimnion (upper layer). Since an internal source of phosphorus to the lake is present, limiting or eliminating external phosphorus sources in the lake's watershed is even more important for lake protection.

- The turbidity of the hypolimnetic samples was again quite high (Table 11). It is possible that the anchor was disturbing the bottom sediment during sampling. In the future, please try to collect the samples at the opposite end of the boat from the anchor, and collect the hypolimnetic sample last. This will give the sediment time to resettle. Also, if sediment is apparent in the Kemmerer bottle, please try for a cleaner sample.

NOTES

- Monitor's Note (6/12/00): Nor'easter 6/6/00; several inches of rain.
- Monitor's Note (7/10/00): Rain last night.
- Biologist's Note (7/10/00): Internal loading of hypolimnion.
- Monitor's Note (8/13/00): Rain.

FIGURE INTERPRETATION

South Station

- Figure 1: Chlorophyll-a concentrations at the South Station tend to be *slightly worsening*, although the concentration remains below the NH mean value. Algae concentrations were elevated in September possibly due to a build up of nutrients, which allowed excess algae growth. Diatoms and golden-brown algae have been the dominant algae for the past three years, as they have in the North Station.

- Figure 2: Transparency in the South Station is *fairly stable*, but water clarity was slightly decreased this season. The clearest reading was in August when the chlorophyll concentration was low, however the September clarity decreased due to the increase in algal productivity or an influx of particulate matter.

- Figure 3: Phosphorus concentration in the epilimnion and hypolimnion are *stable*. Phosphorus concentration was elevated in the hypolimnion in June due to sediment in the sample; this is evident after observing the high turbidity of the sample (Table 11).

OTHER COMMENTS

- In July, August, and September of this year the Ball Rd Inlet had high phosphorus (Table 8) and conductivity levels (Table 6), while Thayer Rd Inlet had high phosphorus concentrations during the same time period (see also the Chemical Raw Data report). Monitors noted on the field data sheets in July and August that rain occurred either before or during sampling. This would explain the higher readings in those months; rains wash pollutants and nutrients from the surrounding watershed into the inlets. This did not appear to affect the lake quality during these months (see figures 1 and 3 for the North Station). Despite these higher results, both inlets had lower mean conductivity and phosphorus levels this season compared to last season's results, which is a promising sign for the health of the watershed.

- The dissolved oxygen concentration from 4 meters to the bottom of the pond was low (Table 9), as was the case in the North Station. Please see the Other Comments section of the North Station for an explanation.

- Erosion control best management practices (BMPs), recommended by the DES Clean Lake program and designed by the Natural Resources Conservation Service, were installed at Ball Road during the middle of September this year by the Kingston Department of Public Works. The BMPs appear to be functioning properly. The NHDES Biology Section staff will check the erosion controls in the springtime to ensure they continue to reduce pollutants to the lake.

NOTES

- Biologist's Note (6/12/00): Internal loading of hypolimnion.

- Monitor's Note (7/10/00): Rain last night.

- Monitor's Note (8/13/00): Rain and wind.

USEFUL RESOURCES

Soil Erosion and Sediment Control on Construction Sites, WD-WEB-12, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Bacteria in Surface Waters, WD-BB-14, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Proper Lawn Care Can Protect Waters, WD-BB-31, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Sand Dumping - Beach Construction, WD-BB-15, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

2000

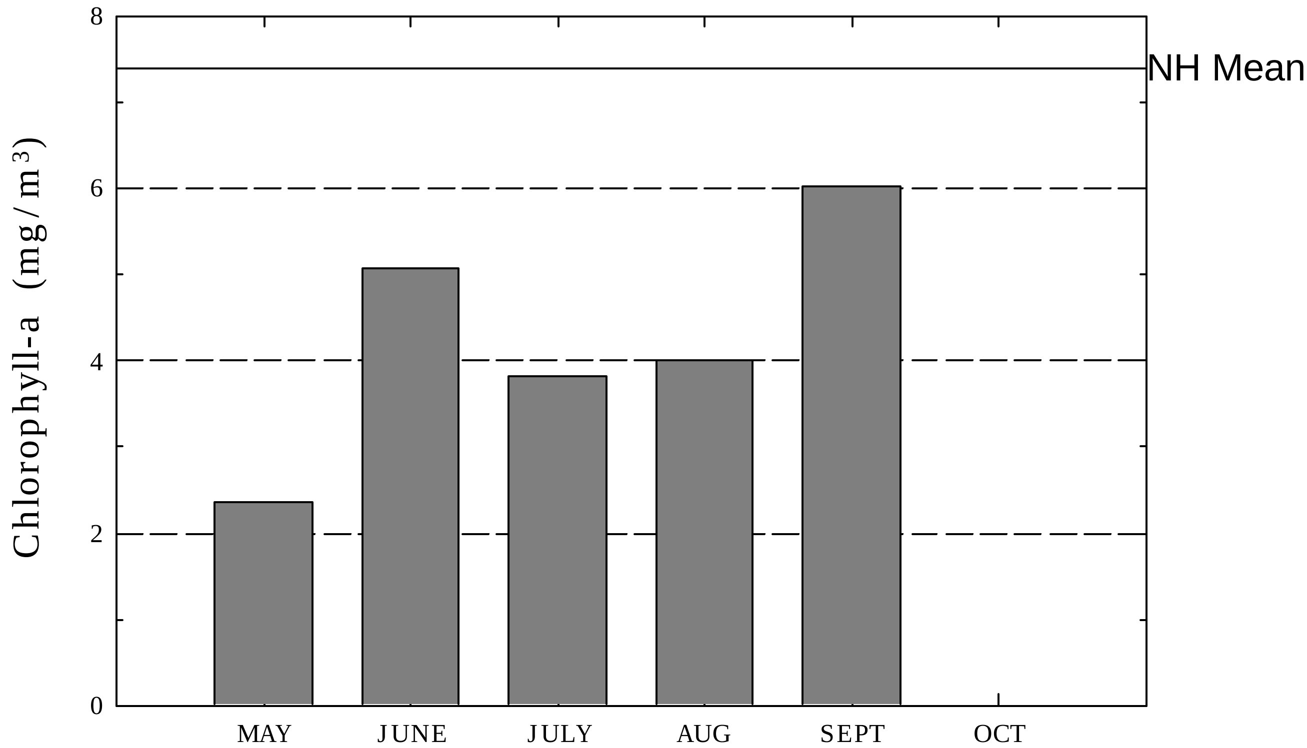
Anthropogenic Phosphorus and New Hampshire Waterbodies, NHDES-WSPCD-95-6, NHDES Booklet, (603) 271-3503

Shoreland Plantings, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

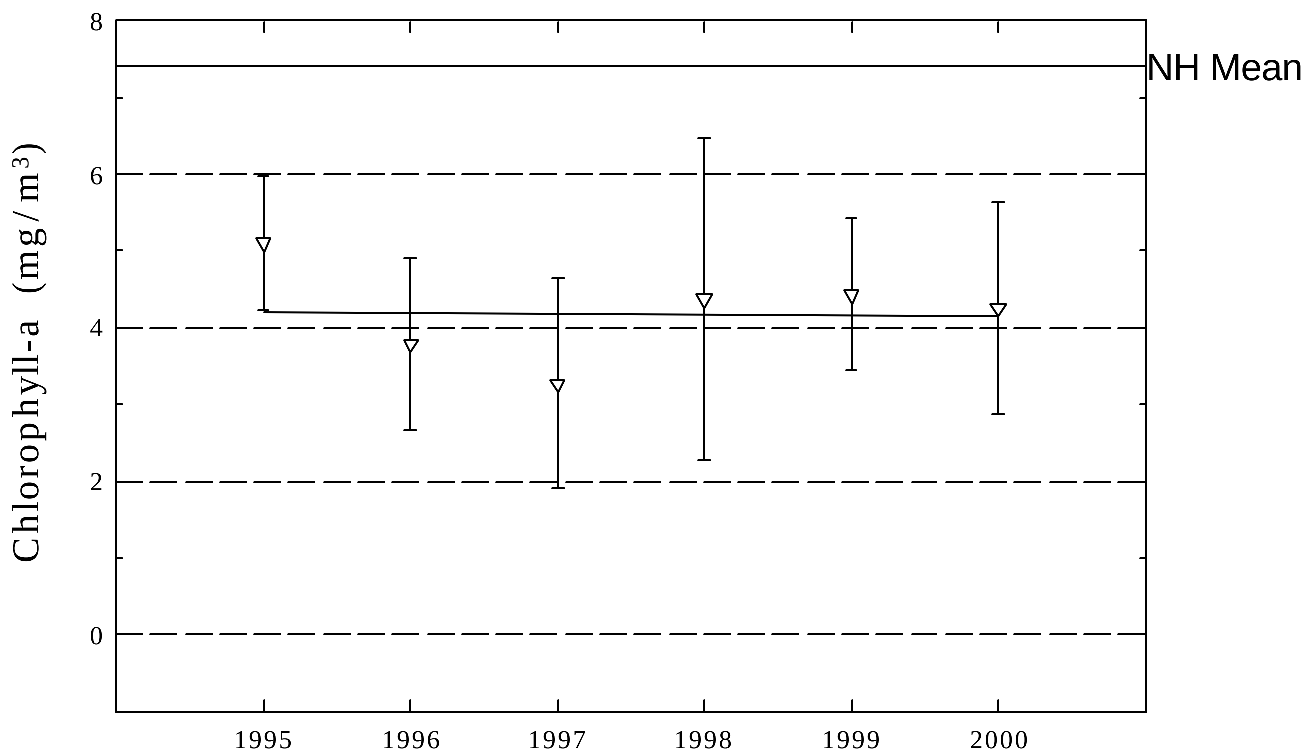
What is a Watershed?, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

Great Pond, North

Figure 1. Monthly and Historical Chlorophyll-a Results



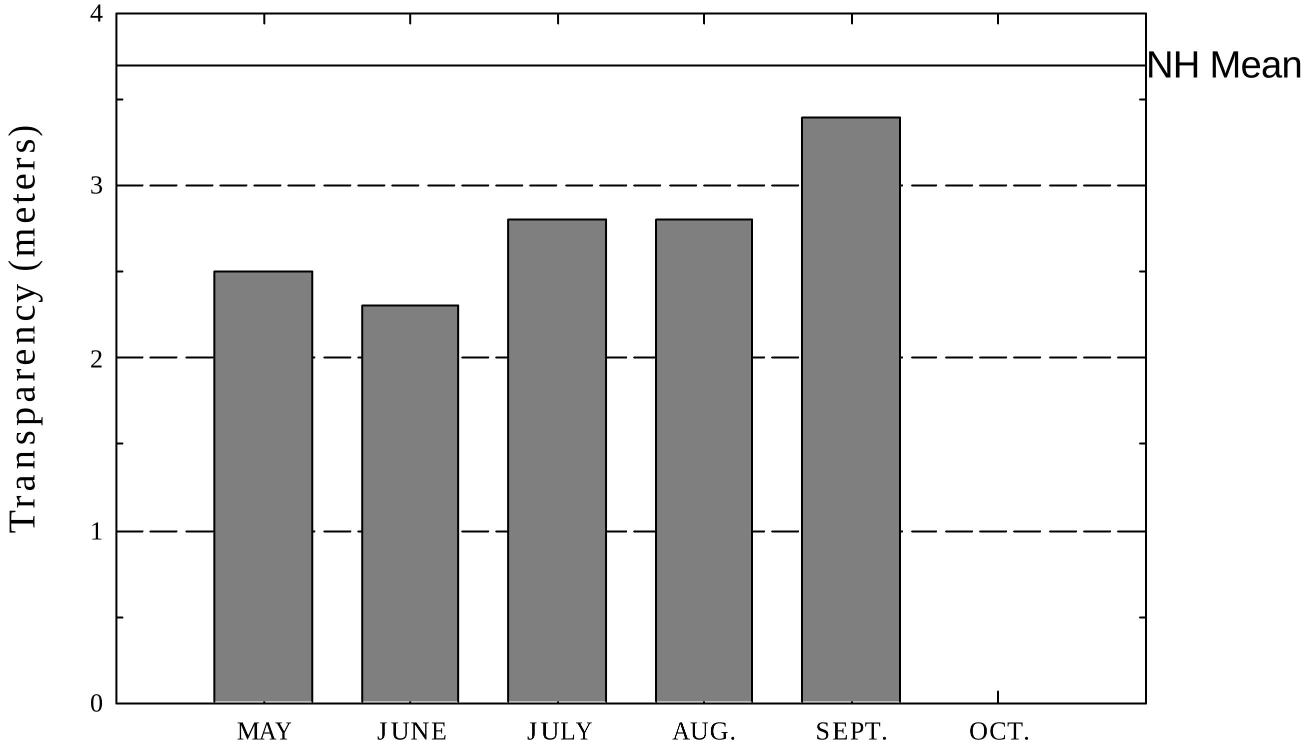
2000 Chlorophyll-a Results



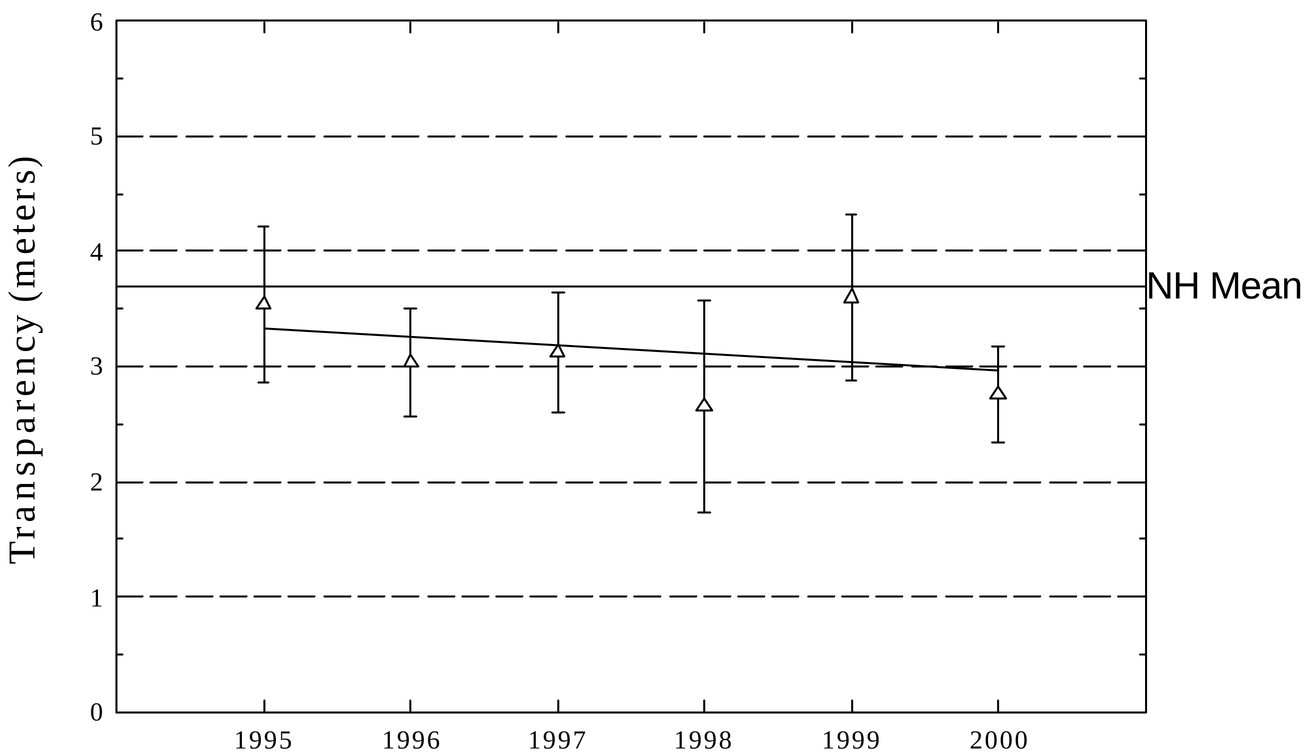
Historical Chlorophyll-a Results

Great Pond, North

Figure 2. Monthly and Historical Transparency Results



2000 Transparency Results



Historical Transparency Results

Great Pond, North

Figure 3. Monthly and Historical Total Phosphorus Data.

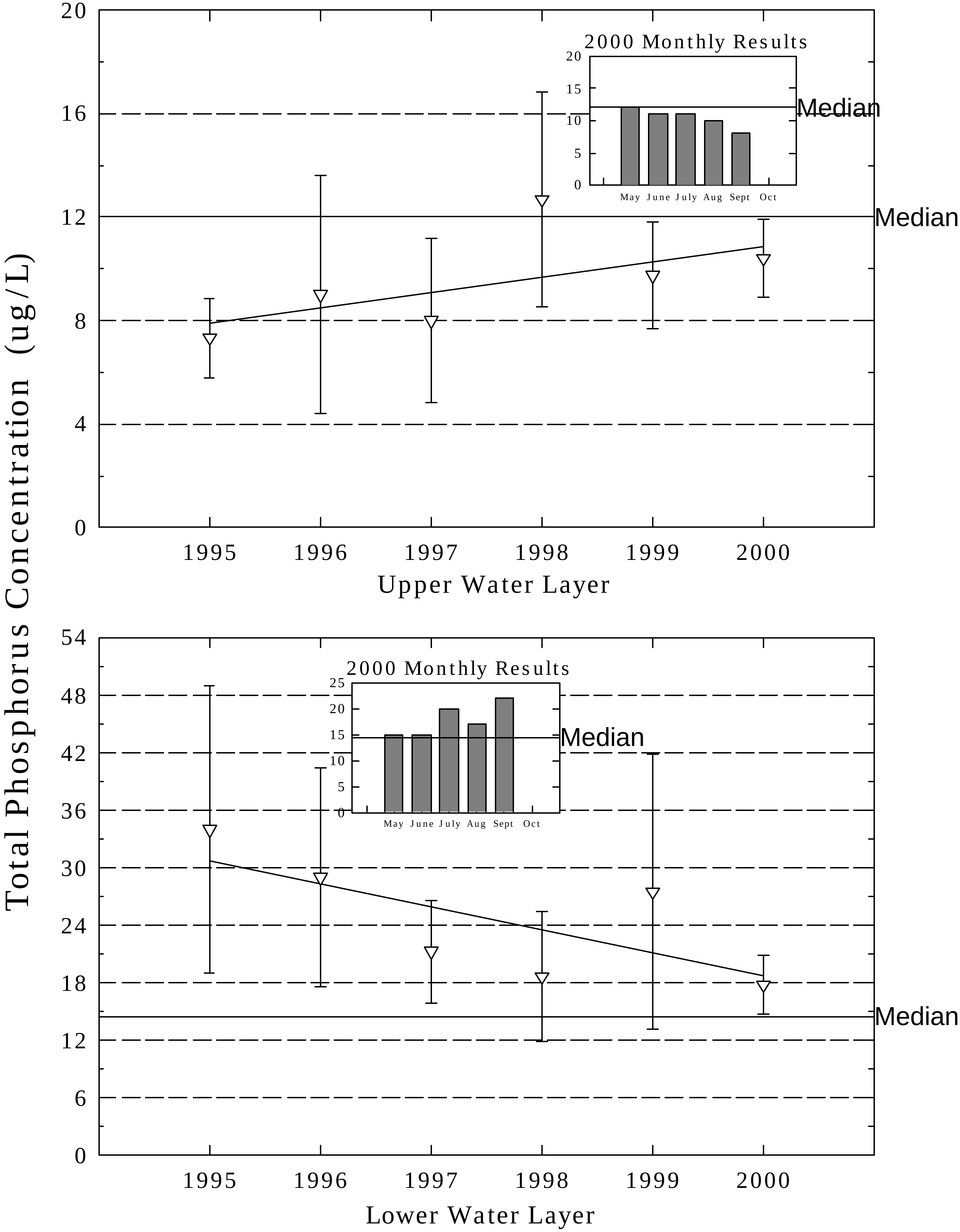


Table 1.

GREAT POND, NORTH KINGSTON

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1995	3.63	6.04	4.55
1996	2.73	4.98	3.78
1997	2.02	4.58	3.27
1998	2.89	6.05	4.93
1999	3.65	5.85	4.43
2000	2.35	6.02	4.25

Table 2.

GREAT POND, NORTH KINGSTON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06 / 14 / 1995	ASTERIONELLA	42
	DINOBRYON	44
06 / 28 / 1995	DINOBRYON	27
	ASTERIONELLA	23
	ANABAENA	23
06 / 17 / 1996	ASTERIONELLA	53
	TABELLARIA	23
	MICROCYSTIS	15
06 / 11 / 1997	ASTERIONELLA	43
	DINOBRYON	43
	CYCLOTELLA	6
06 / 23 / 1998	DINOBRYON	49
	SYNURA	37
	UROGLENOPSIS	6
07 / 10 / 2000	ASTERIONELLA	50
	SYNURA	19
	DINOBRYON	8

Table 3.

GREAT POND, NORTH KINGSTON

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1995	3.0	4.5	3.6
1996	2.5	3.3	3.0
1997	2.5	3.6	3.1
1998	1.8	3.3	2.3
1999	2.6	4.3	3.6
2000	2.3	3.4	2.7

Table 4.

GREAT POND, NORTH KINGSTON

pH summary for current and historical sampling seasons. Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1995	6.80	7.07	6.91
	1996	6.21	6.59	6.38
	1997	6.72	7.25	6.90
	1998	6.68	6.97	6.81
	1999	6.44	6.94	6.67
	2000	6.37	6.90	6.64
HYPOLIMNION				
	1995	6.26	6.37	6.30
	1996	6.07	6.42	6.17
	1997	6.05	6.52	6.23
	1998	6.01	6.47	6.21
	1999	6.30	6.49	6.37
	2000	6.27	6.49	6.38
METALIMNION				
	1995	6.15	6.59	6.41
	1996	5.93	6.45	6.16
	1997	6.22	6.91	6.45
	1998	6.19	6.60	6.37
	1999	6.19	6.54	6.33
	2000	6.25	6.74	6.37

Table 5.

GREAT POND, NORTH

KINGSTON

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1995	7.90	11.70	9.15
1996	6.60	8.60	7.87
1997	7.00	8.60	7.88
1998	7.70	10.20	8.83
1999	7.90	9.40	8.68
2000	5.50	8.80	7.52

Table 6.

GREAT POND, NORTH KINGSTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1995	120.0	129.8	125.6
	1996	128.8	139.7	132.4
	1997	119.2	133.1	128.3
	1998	109.9	125.6	117.4
	1999	133.4	148.3	140.5
	2000	130.7	155.7	146.0
HYPOLIMNION				
	1995	117.5	123.4	120.2
	1996	120.3	131.2	124.3
	1997	116.2	133.4	123.5
	1998	119.2	127.7	123.5
	1999	131.0	148.0	139.5
	2000	133.6	157.7	146.0
METALIMNION				
	1995	118.3	123.5	120.8
	1996	123.0	134.8	127.3
	1997	117.2	132.6	126.2
	1998	124.9	127.0	126.3
	1999	131.2	147.4	139.8
	2000	129.4	153.0	143.5

Table 8.

GREAT POND, NORTH KINGSTON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1995	6	15	9
	1996	5	14	9
	1997	4	11	8
	1998	8	16	12
	1999	8	12	9
	2000	8	12	10
HYPOLIMNION				
	1995	17	47	32
	1996	21	42	29
	1997	17	29	21
	1998	11	24	18
	1999	13	45	27
	2000	15	22	17
METALIMNION				
	1995	7	22	12
	1996	6	13	9
	1997	8	12	9
	1998	5	9	7
	1999	7	12	9
	2000	8	11	9

Table 9.

GREAT POND, NORTH KINGSTON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
July 10, 2000			
0.1	24.0	6.9	81.6
0.1	24.0	6.9	81.6
1.0	23.6	6.7	78.9
1.0	23.6	6.7	78.9
2.0	23.4	6.6	77.7
2.0	23.4	6.6	77.7
3.0	22.9	6.0	69.7
3.0	22.9	6.0	69.7
4.0	18.4	2.1	22.7
4.0	18.4	2.1	22.7
5.0	14.1	1.7	16.8
5.0	14.1	1.7	16.8
6.0	11.5	3.1	28.5
6.0	11.5	3.1	28.5
7.0	9.7	4.4	39.1
7.0	9.7	4.4	39.1
8.0	8.8	3.2	27.6
8.0	8.8	3.2	27.6
9.0	8.3	1.0	8.8
9.0	8.3	1.0	8.8
10.0	7.8	0.2	1.4
10.0	7.8	0.2	1.4
11.0	7.5	0.1	0.5
11.0	7.5	0.1	0.5
12.0	7.3	0.1	0.8
12.0	7.3	0.1	0.8
13.0	7.4	0.2	1.4
13.0	7.4	0.2	1.4

Table 10.

GREAT POND, NORTH KINGSTON

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 7, 1995	13.0	5.3	1.2	9.0
July 5, 1995	13.0	8.2	0.4	3.0
August 2, 1995	13.0	5.7	0.4	3.0
June 17, 1996	13.5	6.5	0.5	4.0
June 11, 1997	11.0	7.0	2.4	20.0
June 23, 1998	14.0	5.2	0.3	2.0
July 10, 2000	13.0	7.4	0.2	1.4
July 10, 2000	13.0	7.4	0.2	1.4

Table 11.

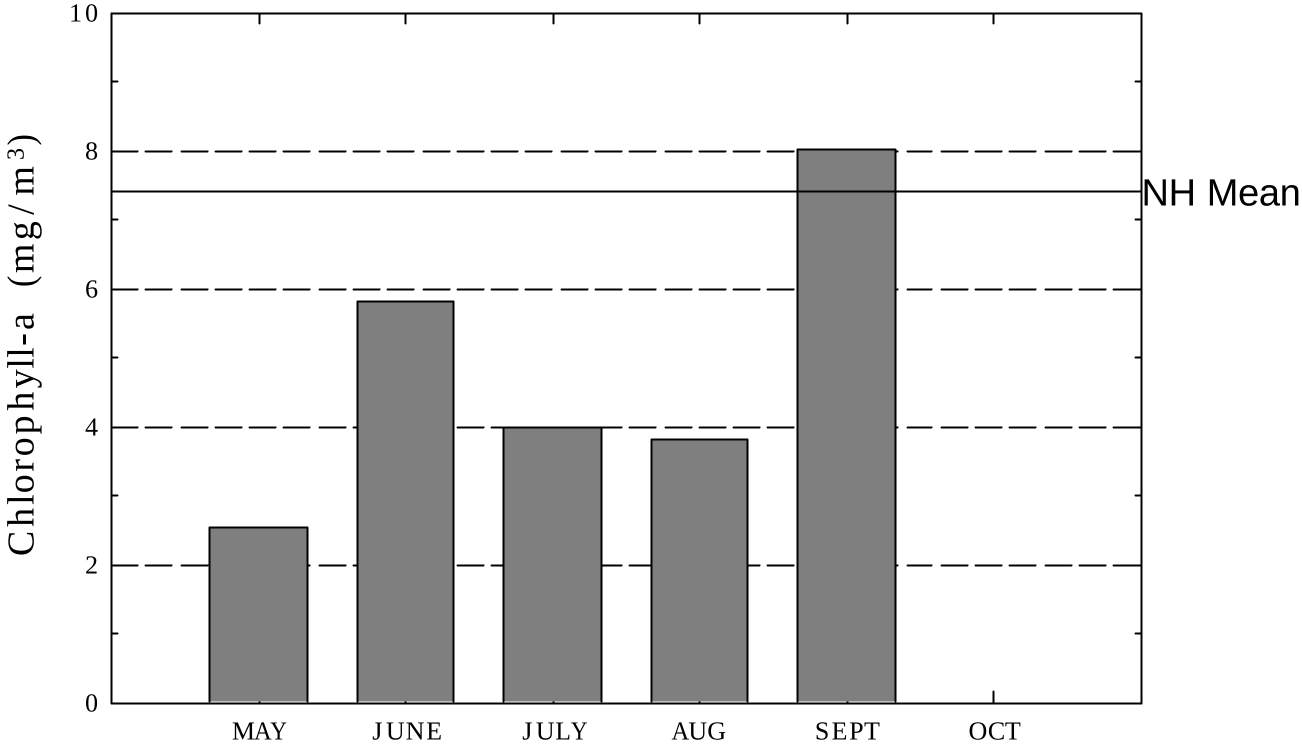
GREAT POND, NORTH KINGSTON

Summary of current year and historic turbidity sampling.
Results in NTU's.

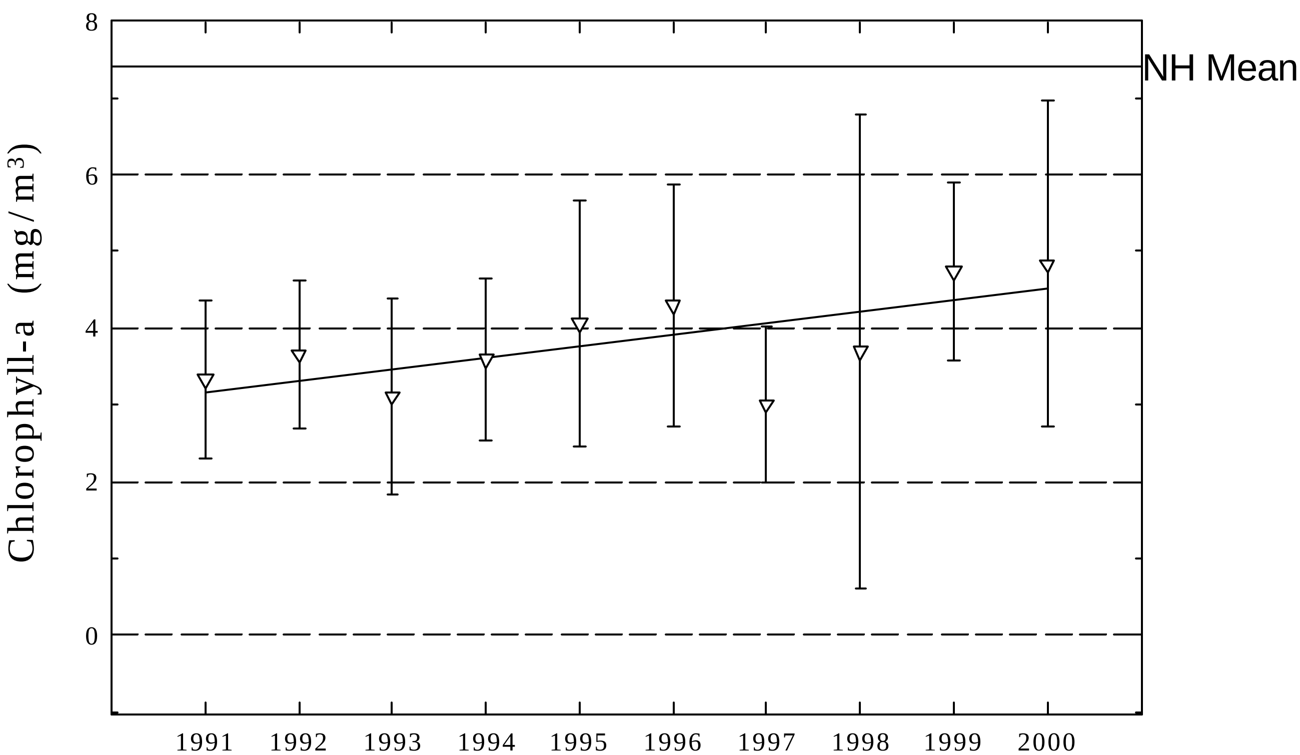
Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1997	0.4	0.7	0.6
	1998	0.5	0.9	0.7
	1999	0.4	0.7	0.5
	2000	0.4	0.7	0.6
HYPOLIMNION				
	1997	1.0	3.7	2.3
	1998	0.8	25.0	10.1
	1999	2.0	17.1	5.9
	2000	2.3	14.3	6.9
METALIMNION				
	1997	0.6	1.2	0.7
	1998	0.5	2.5	1.8
	1999	0.5	1.6	1.0
	2000	0.5	2.4	1.1

Great Pond, South

Figure 1. Monthly and Historical Chlorophyll-a Results



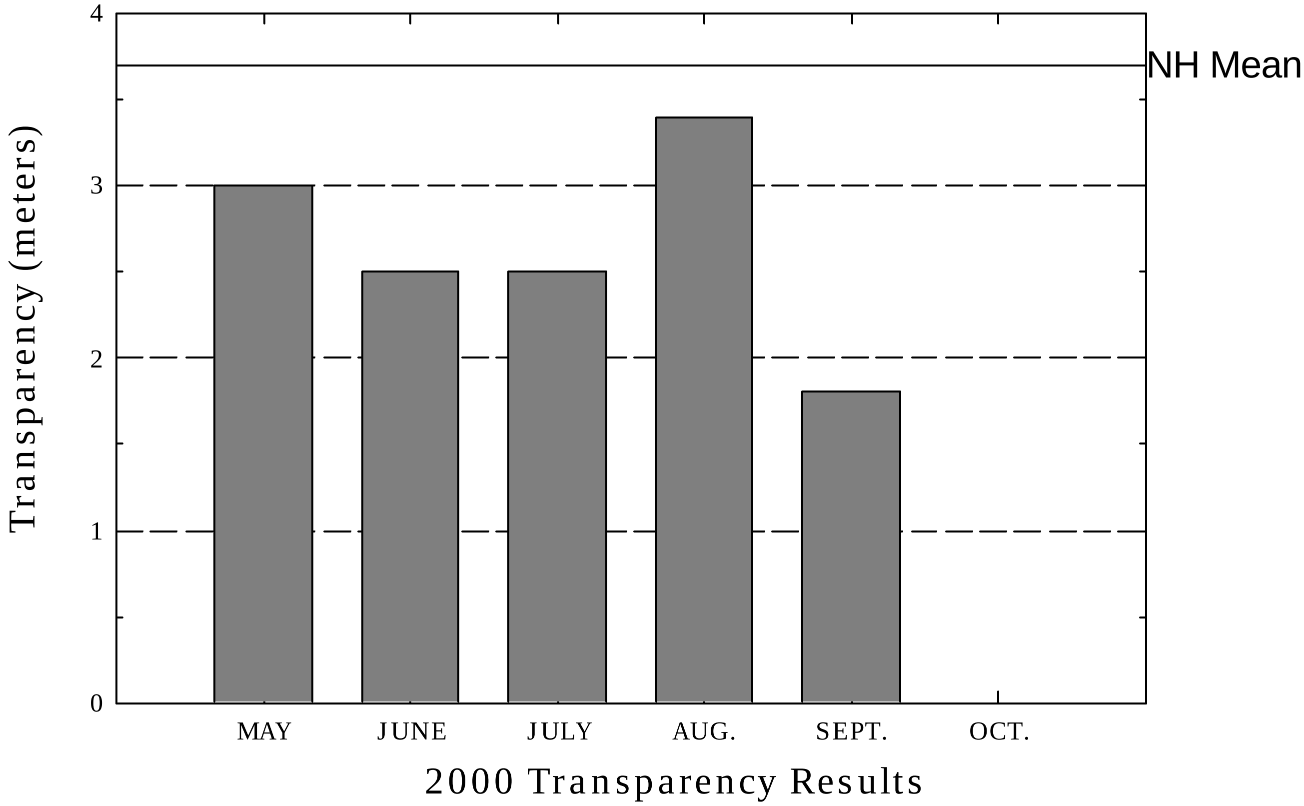
2000 Chlorophyll-a Results

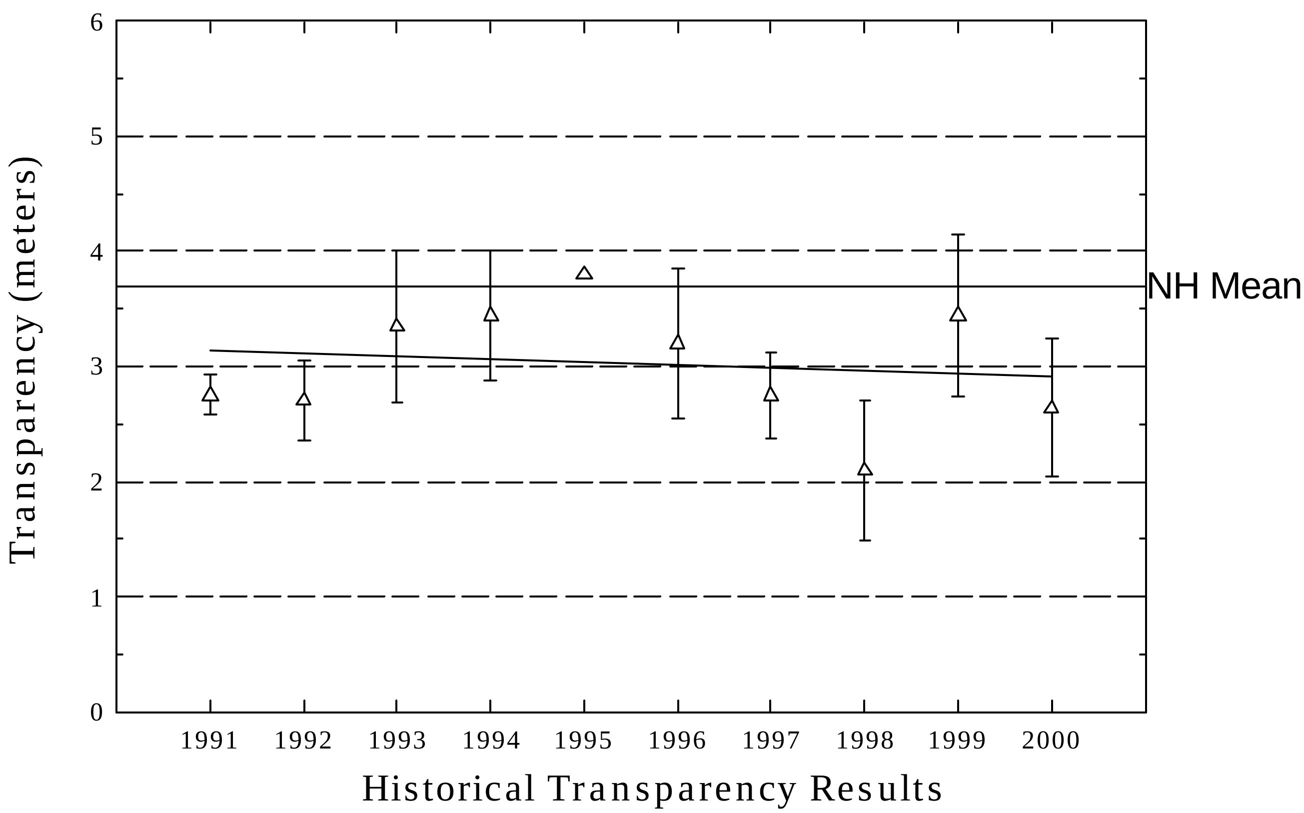


Historical Chlorophyll-a Results

Great Pond, South

Figure 2. Monthly and Historical Transparency Results





Great Pond, South

Figure 3. Monthly and Historical Total Phosphorus Data.

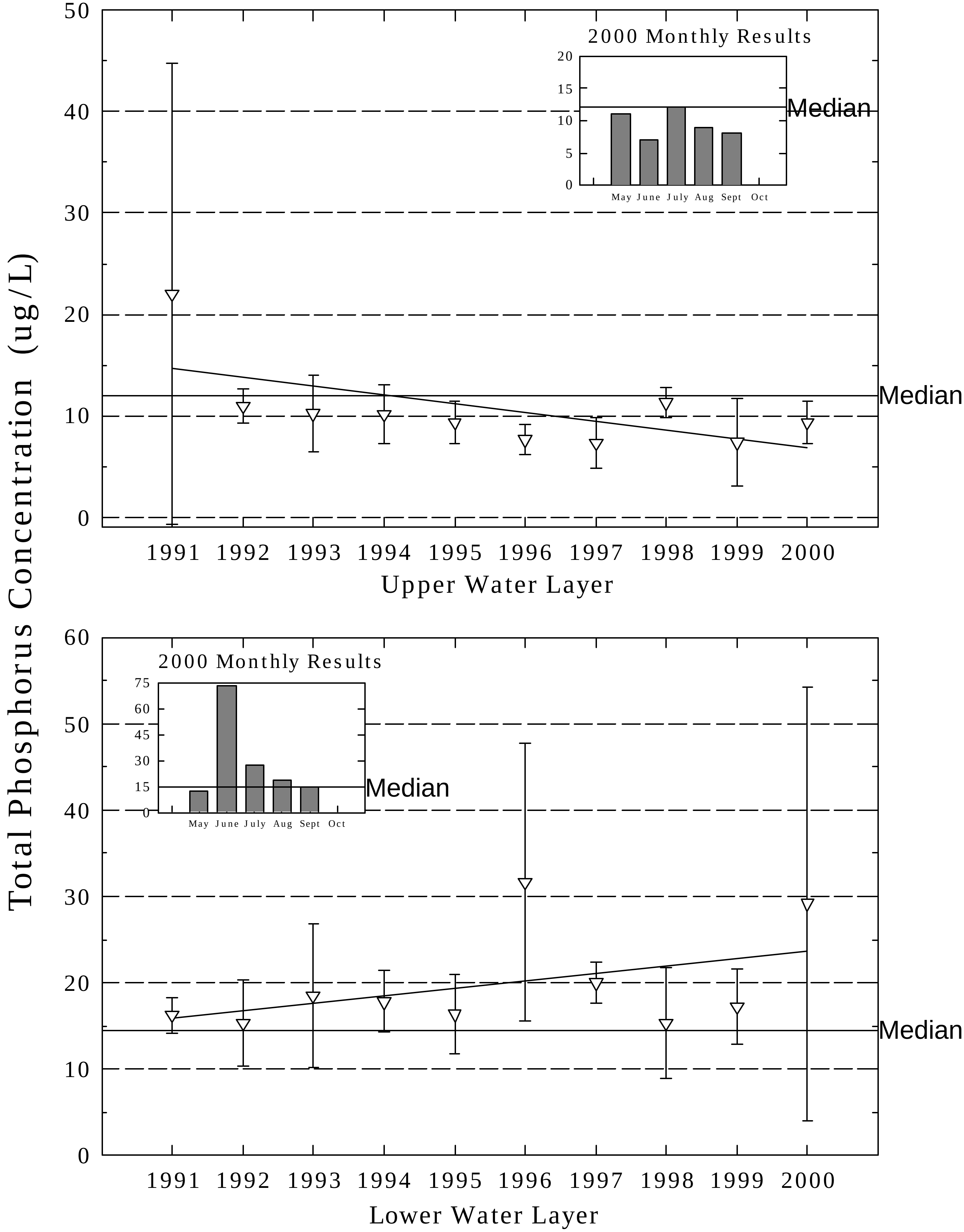


Table 1.

GREAT POND, SOUTH KINGSTON

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1991	1.85	4.22	3.33
1992	2.56	4.38	3.65
1993	1.99	4.92	3.10
1994	2.02	4.53	3.59
1995	2.72	5.85	4.03
1996	2.72	5.90	4.29
1997	1.82	4.03	3.01
1998	0.26	6.24	3.69
1999	3.46	6.38	4.73
2000	2.54	8.03	4.84

Table 2.

GREAT POND, SOUTH KINGSTON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06 / 17 / 1991	ASTERIONELLA	75
07 / 09 / 1992	DINOBRYON	31
	SYNURA	30
	CERATIUM	12
06 / 12 / 1993	DINOBRYON	48
	ASTERIONELLA	30
07 / 22 / 1994	DINOBRYON	54
	COELOSPHAERIUM	26
06 / 14 / 1995	ASTERIONELLA	49
	DINOBRYON	30
06 / 28 / 1995	DINOBRYON	37
	ANABAENA	20
	SYNURA	17
06 / 11 / 1997	DINOBRYON	69
	ASTERIONELLA	21
	MELOSIRA	7
06 / 23 / 1998	SYNURA	67
	DINOBRYON	27
	CERATIUM	3
07 / 10 / 2000	ASTERIONELLA	40
	SYNURA	19
	DINOBRYON	8

Table 3.

GREAT POND, SOUTH KINGSTON

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1991	2.5	2.9	2.7
1992	2.5	3.1	2.7
1993	2.6	4.0	3.3
1994	2.7	4.0	3.4
1995	3.3	4.5	3.7
1996	2.5	3.8	3.2
1997	2.2	3.0	2.7
1998	1.7	2.8	2.1
1999	2.4	4.3	3.4
2000	1.8	3.4	2.6

Table 4.

GREAT POND, SOUTH KINGSTON

pH summary for current and historical sampling seasons. Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
BALL RD INLET				
	1991	7.16	7.30	7.22
	1992	5.85	7.50	6.14
	1993	5.36	6.58	5.71
	1994	5.43	6.12	5.73
	1996	5.10	5.35	5.21
	1997	5.67	6.05	5.87
	1998	5.25	5.60	5.39
	1999	5.13	6.18	5.47
	2000	5.45	5.70	5.61
EPILIMNION				
	1991	6.84	7.11	6.97
	1992	6.86	7.19	7.01
	1993	6.85	7.15	6.99
	1994	6.69	7.05	6.85
	1995	6.79	6.98	6.90
	1996	6.48	6.56	6.51
	1997	6.85	7.02	6.91
	1998	6.55	6.97	6.70
	1999	6.60	6.91	6.77
	2000	6.63	6.85	6.76
GREAT PD PARK RD				
	1997	6.21	6.21	6.21
	1998	5.90	5.92	5.91
	1999	5.52	6.04	5.71

Table 4.

GREAT POND, SOUTH KINGSTON

pH summary for current and historical sampling seasons. Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
HYPOLIMNION				
	1991	6.30	6.52	6.42
	1992	5.75	6.50	6.09
	1993	5.79	6.53	6.14
	1994	6.02	6.84	6.31
	1995	5.34	6.47	5.96
	1996	6.23	6.32	6.26
	1997	6.41	6.60	6.49
	1998	6.20	6.42	6.27
	1999	6.25	6.43	6.33
	2000	6.23	6.46	6.39
KELLEY BROOK INLET				
	1991	6.50	6.60	6.54
	1992	6.38	6.46	6.41
	1993	5.92	6.82	6.32
	1994	6.19	6.51	6.34
	1996	6.15	6.54	6.36
	1997	6.32	6.43	6.36
	1998	6.23	6.52	6.34
	1999	6.02	6.51	6.23
	2000	6.25	6.38	6.34
METALIMNION				
	1991	6.30	6.70	6.54
	1992	6.22	7.07	6.57

Table 4.

GREAT POND, SOUTH KINGSTON

pH summary for current and historical sampling seasons. Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1993	6.31	7.04	6.58
	1994	5.87	6.93	6.29
	1995	6.33	6.59	6.45
	1996	6.13	6.27	6.19
	1997	6.22	7.00	6.49
	1998	6.20	6.56	6.31
	1999	6.26	6.69	6.39
	2000	6.26	6.71	6.49
OUTLET				
	1991	6.80	7.00	6.90
	1992	6.93	7.11	7.01
	1993	6.61	7.13	6.78
	1994	6.60	6.87	6.72
	1996	6.35	6.84	6.53
	1997	6.66	6.93	6.78
	1998	6.32	6.80	6.53
	1999	6.41	6.74	6.64
	2000	6.65	6.80	6.71
THAYER RD INLET				
	1991	6.56	6.70	6.61
	1992	6.77	6.92	6.81
	1993	6.46	7.11	6.71
	1994	6.22	6.69	6.43
	1996	6.05	6.46	6.21
	1997	6.37	6.84	6.56

Table 4.

GREAT POND, SOUTH KINGSTON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1998	6.26	6.82	6.46
	1999	5.79	6.48	6.14
	2000	6.18	6.63	6.31

Table 5.

GREAT POND, SOUTH

KINGSTON

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1991	2.60	8.60	6.88
1992	8.30	8.80	8.60
1993	7.70	8.90	8.38
1994	6.10	8.80	7.38
1995	8.10	10.00	9.23
1996	7.30	8.50	8.00
1997	6.70	8.80	7.83
1998	7.50	10.00	8.80
1999	8.10	9.00	8.74
2000	6.90	9.00	8.30

Table 6.

GREAT POND, SOUTH KINGSTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
BALL RD INLET				
	1991	243.8	293.2	268.5
	1992	41.4	307.8	174.6
	1993	58.7	215.3	113.5
	1994	56.8	90.4	79.0
	1996	59.8	68.9	64.3
	1997	49.7	266.0	128.6
	1998	37.0	47.2	42.1
	1999	64.0	79.1	71.7
	2000	44.4	73.0	57.5
EPILIMNION				
	1991	98.0	107.1	103.2
	1992	105.1	108.2	106.1
	1993	110.0	120.8	115.6
	1994	113.1	136.1	128.2
	1995	123.2	130.0	126.5
	1996	127.9	139.7	132.8
	1997	121.5	133.4	129.1
	1998	109.9	126.1	117.8
	1999	133.8	147.9	142.1
	2000	131.7	154.1	146.9
GREAT PD PARK RD				
	1997	117.1	117.1	117.1
	1998	99.9	104.4	102.1
	1999	130.3	137.8	134.0

Table 6.

GREAT POND, SOUTH KINGSTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
HYPOLIMNION				
	1991	103.1	116.3	109.0
	1992	107.5	123.4	114.0
	1993	97.1	113.4	105.8
	1994	117.1	138.3	126.7
	1995	119.3	132.1	123.8
	1996	122.4	131.2	125.7
	1997	118.6	138.8	127.1
	1998	124.8	135.8	131.0
	1999	134.5	152.0	141.7
	2000	131.0	163.2	146.7
KELLEY BROOK INLET				
	1991	91.7	115.7	101.1
	1992	92.2	116.1	107.2
	1993	112.4	137.8	130.8
	1994	109.9	156.0	129.1
	1996	124.0	139.8	133.1
	1997	118.8	151.7	131.6
	1998	89.6	154.3	118.2
	1999	125.6	159.9	142.3
	2000	130.6	177.1	149.6
METALIMNION				
	1991	99.4	143.6	112.4
	1992	106.6	115.7	110.2

Table 6.

GREAT POND, SOUTH KINGSTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1993	107.3	122.4	115.5
	1994	117.3	132.2	126.7
	1995	119.4	124.9	122.9
	1996	123.9	134.8	129.0
	1997	117.7	134.1	127.2
	1998	117.1	131.4	126.4
	1999	133.5	148.3	141.1
	2000	131.8	153.9	146.3
OUTLET				
	1991	100.0	109.8	104.1
	1992	105.8	108.3	107.4
	1993	111.9	136.9	122.6
	1994	118.4	140.2	131.4
	1996	131.1	144.5	135.8
	1997	125.6	137.3	133.2
	1998	107.0	150.8	126.1
	1999	137.6	151.7	144.0
	2000	135.3	156.7	149.7
THAYER RD INLET				
	1991	103.4	111.5	108.1
	1992	106.4	117.5	111.6
	1993	122.1	134.1	126.5
	1994	118.7	154.0	135.9
	1996	146.0	202.7	174.3
	1997	126.3	138.7	134.6

Table 6.

GREAT POND, SOUTH KINGSTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1998	116.1	181.1	142.1
	1999	181.4	222.5	205.3
	2000	123.0	144.7	135.6

Table 8.

GREAT POND, SOUTH KINGSTON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
BALL RD INLET				
	1991	23	23	23
	1992	72	226	149
	1993	41	107	74
	1994	11	70	34
	1996	34	47	40
	1997	53	300	152
	1998	21	52	36
	1999	27	124	60
	2000	12	38	26
EPILIMNION				
	1991	9	56	22
	1992	10	13	11
	1993	6	15	10
	1994	8	15	10
	1995	1	11	7
	1996	6	9	7
	1997	5	10	7
	1998	10	13	11
	1999	1	13	7
	2000	7	12	9
GREAT PD PARK RD				
	1997	35	35	35
	1998	30	66	48
	1999	15	41	28

Table 8.

GREAT POND, SOUTH KINGSTON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
HALFMOON PARK ROAD				
	1996	45	45	45
HYPOLIMNION				
	1991	14	18	16
	1992	12	21	15
	1993	7	27	18
	1994	14	22	17
	1995	11	29	19
	1996	15	47	31
	1997	17	23	20
	1998	8	19	15
	1999	12	21	17
	2000	12	73	29
KELLEY BROOK INLET				
	1991	19	37	26
	1992	21	28	24
	1993	25	97	48
	1994	14	50	29
	1996	12	28	18
	1997	16	29	20
	1998	9	38	21
	1999	13	24	17
	2000	9	21	13

Table 8.

GREAT POND, SOUTH KINGSTON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
METALIMNION				
	1991	12	14	12
	1992	10	16	12
	1993	9	16	12
	1994	9	15	12
	1995	7	12	9
	1996	7	9	8
	1997	4	11	8
	1998	8	10	9
	1999	1	12	7
	2000	7	10	8
OUTLET				
	1991	9	11	10
	1992	8	10	9
	1993	10	20	14
	1994	7	25	14
	1996	6	11	9
	1997	6	10	8
	1998	10	15	12
	1999	7	71	22
	2000	8	20	12
THAYER RD INLET				
	1991	53	58	56
	1992	25	47	38

Table 8.

GREAT POND, SOUTH KINGSTON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1993	21	47	35
	1994	34	65	44
	1996	47	189	118
	1997	25	61	41
	1998	2	44	27
	1999	11	121	71
	2000	25	82	45

Table 9.

GREAT POND, SOUTH KINGSTON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
July 10, 2000			
0.1	23.8	6.9	81.3
0.1	23.8	6.9	81.3
1.0	23.6	6.8	80.6
1.0	23.6	6.8	80.6
2.0	23.4	6.8	80.1
2.0	23.4	6.8	80.1
3.0	22.9	5.8	67.6
3.0	22.9	5.8	67.6
4.0	18.5	1.6	17.2
4.0	18.5	1.6	17.2
5.0	14.5	1.6	15.8
5.0	14.5	1.6	15.8
6.0	12.2	1.7	16.3
6.0	12.2	1.7	16.3
7.0	11.0	1.7	15.2
7.0	11.0	1.7	15.2
8.0	10.5	1.9	17.1
8.0	10.5	1.9	17.1
9.0	10.0	1.8	16.0
9.0	10.0	1.8	16.0
10.0	9.5	0.7	6.4
10.0	9.5	0.7	6.4
11.0	9.4	0.2	1.8
11.0	9.4	0.2	1.8
12.0	9.5	0.2	1.8
12.0	9.5	0.2	1.8

Table 10.

GREAT POND, SOUTH KINGSTON

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 15, 1991	12.5	9.1	3.2	27.6
July 8, 1992	9.0	8.0	2.4	20.2
June 12, 1993	10.9	8.6	1.5	12.9
July 22, 1994	12.8	10.8	0.1	1.0
June 21, 1995	12.5	8.0	1.1	9.0
July 21, 1995	13.0	7.7	0.4	3.0
August 30, 1995	13.0	7.0	0.8	6.0
June 17, 1996	12.0	7.5	2.7	22.0
June 11, 1997	11.0	10.0	3.0	27.0
June 23, 1998	14.0	8.9	0.1	1.0
June 23, 1999	11.5	10.0	0.7	6.6
July 10, 2000	12.0	9.5	0.2	1.8
July 10, 2000	12.0	9.5	0.2	1.8

Table 11.

GREAT POND, SOUTH KINGSTON

Summary of current year and historic turbidity sampling. Results in NTU's.

Station	Year	Minimum	Maximum	Mean
BALL RD INLET				
	1997	0.7	48.0	22.2
	1998	0.3	0.6	0.4
	1999	0.4	1.9	1.0
	2000	0.4	0.7	0.5
EPILIMNION				
	1997	0.5	0.6	0.6
	1998	0.5	0.9	0.8
	1999	0.4	0.6	0.5
	2000	0.4	0.6	0.5
GREAT PD PARK RD				
	1997	0.8	0.8	0.8
	1998	0.6	1.1	0.9
	1999	0.4	1.6	1.0
HYPOLIMNION				
	1997	2.6	10.6	5.9
	1998	6.7	13.3	10.8
	1999	1.9	8.1	3.4
	2000	1.0	14.4	8.7
KELLEY BROOK INLET				
	1997	1.1	1.3	1.2
	1998	0.6	2.8	2.0
	1999	0.7	3.3	1.7
	2000	0.7	1.2	0.9
METALIMNION				

Table 11.

GREAT POND, SOUTH
KINGSTON

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1997	0.5	0.9	0.6
	1998	0.4	3.8	1.9
	1999	0.6	1.5	0.9
	2000	0.4	1.5	0.7
OUTLET				
	1997	0.5	1.0	0.7
	1998	0.5	1.0	0.8
	1999	0.5	1.4	0.8
	2000	0.6	0.8	0.7
THAYER RD INLET				
	1997	1.3	2.3	1.7
	1998	1.0	6.2	2.9
	1999	1.9	13.9	7.2
	2000	1.1	3.4	2.2